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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,428

09/01/2006

Claus Frohberg

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EXAMINER

PAGE, BRENT T

ART UNIT

PAPER NUMBER

1638

MAIL DATE

DELIVERY MODE

08/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,428	FROHBERG ET AL.	
	Examiner	Art Unit	
	BRENT PAGE	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 25-32 and 35-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-12, 25-32, 35-39, 41-43, 45, 46 and 48 is/are rejected.
- 7) ☒ Claim(s) 8 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Reply filed by Applicant on 04/27/2029 is hereby acknowledged. The cancellation of claims 13-17, 19, 21-24 and 33-34 without prejudice is hereby acknowledged. The addition of claims 40-48 is hereby acknowledged. Claims 1-12, 25-32, and 35-48 are pending and examined herein on the merits.

Specification

Applicant's arguments, see page 3, filed 04/27/2009, with respect to the hyperlinks in the specification have been fully considered and are persuasive when taken together with the amendments to the specification. The objection of the specification has been withdrawn.

Drawings

The Objection to the Drawings is hereby withdrawn. The Drawings are in compliance with 37 CFR 1.121(d), and the Examiner apologizes for the confusion. The notation of Fig. 1 was missed by the Examiner, but it is present in the Drawings as filed on 09/01/2006.

Claim Rejections - 35 USC § 112

Applicant's arguments, see pages 11-14 of the response, filed 04/27/2009, with respect to both enablement and written description have been fully considered and are persuasive when taken together with the claim amendments. The rejection of claims 1-12, 25-32 and 35-39 under 35 USC 112 1st paragraph for lacking enablement and lacking written description has been withdrawn.

Claim Rejections - 35 USC § 102

Applicant's arguments, see page 14, filed 04/27/2009, with respect to the rejection of claims 1-2 and 4-12 under 35 USC 102(b) as being anticipated by Ritte et al (US Patent 6521816) have been fully considered and are persuasive when taken together with the claim amendments. The rejection of claims 1-2 and 4-12 under 35 USC 102(b) as being anticipated by Ritte et al (US Patent 6521816) has been withdrawn.

Claims 1-7, 10-12, 25-32, and 35-39 remain rejected and claims 41-43, 45-46 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Kikuchi et al (US20060123505A1, filed May 29, 2003). The claims remain rejected for the reasons of record in the office action mailed out on 11/26/2008 as well as the reasons set forth below.

Applicant's arguments filed 04/27/2009 have been fully considered but they are not persuasive.

Applicants urge that Kikuchi discloses 28,469 cDNA sequences and does not disclose that any of these sequences are involved in starch metabolism or has OK1 activity, and further, that Kikuchi et al does not provide guidance for one of skill in the art to select SEQ ID NO:22133 out of the 28,469 sequences (see page 15 of response).

This is not persuasive because Kikuchi et al teach in claim 1, an isolated nucleotide sequence set forth in "any one of SEQ ID NOs 1 through 28469" (see

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claim 1), which provides both the teaching and the motivation to select any one of the sequences including SEQ ID NO:22133. This is further not persuasive because in paragraphs 102 and 114, the specification refers to genes involved in "degrading plant storage starch" and "involved in the control of starch storage", respectively, and does not limit the genes or the protein products that would exclude the recognition of the OK1 protein. Kikuchi et al isolated a sequence with 99.5% identity to SEQ ID NO: 3 that inherently is an OK1 encoding sequence and inherently phosphorylates starch. Kikuchi teaches the isolation of the sequence, as well as vector comprising the sequence and a transformed plant and propagation material comprising said sequence, which meets the limitations of the instant claims.

Applicants urge primarily that case law states that when there is a large list of compounds from which to make a selection, there must be some "specific preferences" set forth that would direct one of ordinary skill in the art to the claimed compound (see pages 15-16 of response).

This is not persuasive because the case law cited refers to polymers and chemicals of unknown function and not recognized gene encoding DNA segments. In other words, Kikuchi et al disclosed that the sequences set forth encode polypeptides and therefore disclose the function of the DNA sequence being claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 40, 44 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al (US20060123505A1, filed May 29, 2003).

The claims are drawn to the genetically modified plant cell above wherein the plant comprises the nucleotide sequence of SEQ ID NO:3, or the complementary sequence thereof.

Kikuchi et al isolated a sequence with 99.5% identity to SEQ ID NO: 3 as discussed above.

Kikuchi et al do not teach SEQ ID NO:3. However, the sequence variance of only a single nucleotide difference constitutes an obvious sequence variant absent evidence of an unexpected result.

Given the state of the art and the disclosure by Kikuchi et al, SEQ ID NO:3 would be an obvious sequence variant that reads on the disclosure by Kikuchi et al.

Double Patenting

Applicant's claim amendments, see claims of the response, filed 04/27/2009, render the provisional double patenting rejection of claim 12 with claim 12 of copending application 10591540, moot. The provisional rejection of claim 12 under Obvious type Double Patenting is hereby withdrawn.

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Claims 8-9 are objected to for depending from a rejected claim.

Claims 40, 44, and 47 are free of the art and would be allowable if rewritten in independent form.

No claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **BRENT PAGE** whose telephone number is (571)272-5914. The examiner can normally be reached on Monday-Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571)-272-0975.

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The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brent T Page

/Anne Marie Grunberg/
Supervisory Patent Examiner, Art Unit 1638